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ABSTRACT

This document is a process evaluation of the Academic Achievement (A2) program, a compensatory education reading and mathematics program in Saginaw (Michigan) funded under Chapter 1 of the Education Consolidation and Improvement Act of 1981 and Article 3 of the Michigan State School Aid Act. Information was gathered from questionnaires administered to teachers and principals, and an observation of the mathematics push-in classrooms at grades one and two. The following program strengths are reported: (1) cooperative learning techniques are used in the majority of classrooms; (2) most compensatory education teachers are incorporating new reading strategies into their classroom techniques; (3) compensatory education teachers are following the prescribed time emphases; and (4) math manipulative inservice sessions appear to be well-attended. The following program weaknesses are reported: (1) the math push-in program appears to be less effective than the pull-out program; (2) communication of procedures appears insufficient; (3) teamwork appears to be missing in the math push-in classroom; (4) cost effectiveness of the teacher-student ratio is a problem; (5) second-grade classroom teachers seem to need inservice training; and (6) the results of a new testing program are difficult to use. One table of statistical data is included. The following materials are appended: (1) copies of the teacher and principal survey questionnaires; (2) a teacher evaluation observation checklist for mathematics push-in classroom; (3) the master question matrix for the teacher and principal surveys; (4) the results of the process evaluation; and (5) the results and general observations of the teacher observations for mathematics push-in classrooms. (FMW)

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EVALUATION REPORT

COMPENSATORY EDUCATION PROCESS EVALUATION:

ELEMENTARY AND SECONDARY ACADEMIC ACHIEVEMENT (A^2)

1989-1990

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DEPARTMENT OF EVALUATION SERVICES

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SCHOOL DISTRICT OF THE CITY OF SAGINAW

Saginaw, Michigan

UD 027 429

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COMPENSATORY EDUCATION PROCESS EVALUATION:

ELEMENTARY AND SECONDARY ACADEMIC ACHIEVEMENT (A^2)

1989-1990

An Approved Report of the

DIVISION OF ADMINISTRATION AND PERSONNEL

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February, 1990

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PROGRAM DESCRIPTION

The School District of the City of Saginaw operates a compensatory education delivery system in reading and mathematics consisting of two programs--elementary and secondary Academic Achievement (A^2). The elementary A^2 is both a push-in program (that operates in the regular classroom in grades one and two) and a pull-out program (periodically taking students out of regular classrooms) that serves 2,123 students in grades one through six. The secondary A^2 is a self-contained classroom program which involved approximately 397 students in grades seven through nine and twelve. The A^2 programs are funded by both the Federal Education Consolidation and Improvement Act (ECIA) Chapter 1 and Article 3 of the State School Aid Act.

Summarized in the chart below are demographic characteristics that describe both the elementary and secondary levels of A^2 in greater detail.

DEMOGRAPHIC CHARACTERISTICS OF THE ACADEMIC ACHIEVEMENT PROGRAMS

Program	Grade Levels Served	Approximate Number of Students Served	Number of Full-Time Equivalent Teachers	Number of Full-Time Equivalent Aides	Number of School Sites	Program Setting	Instructional Services
Academic Achievement, Elementary	1-6	2,123	33.0	3.5	23	Push-in (grades 1&2) and Pull-out (grades 3-6)	- Reading - Mathematics
Academic Achievement, Secondary	7-9 & 12	397	9.8	0.0	5	Self-Contained Classroom	- Reading - Mathematics

As can be seen from the chart above, the primary purpose of the programs is to improve the reading and mathematics achievement of a designated number of educationally disadvantaged children. The children in the program are screened for entry with the California Achievement Tests--Form E (CAT). This year approximately 2,520 pupils are participating in the compensatory education programs.

The broad goals of these programs are to: 1) provide intensive academic instruction to the educationally disadvantaged, 2) involve parents in the program, 3) supply students with incentives for academic achievement, 4) operate staff inservice programs, 5) measure academic growth, and 6) prepare students to effectively meet the academic competition of the general classroom. These goals are the focus of the Compensatory Education Department's activities throughout the 1989-90 school year.

PROCESS EVALUATION PROCEDURES

A process evaluation involves monitoring a program throughout the year to determine if the program is being implemented as planned. This makes it possible to identify strengths and weaknesses that influence a program's outcome. For these programs, the process evaluation was accomplished by means of three questionnaires and an observation that focused in on the mathematics push-in classrooms at grades 1 and 2. The questionnaires and the observation instrument (see Appendix A for a copy of the questionnaires and Appendix B for a copy of the observation instrument). All elementary compensatory education teachers and first/second regular education teachers involved in the math push-in classrooms were to be surveyed by questionnaire as well as each elementary principal at the compensatory education buildings. In addition, each elementary teacher's classroom involved in the push-ins were to be observed during an entire compensatory education session. The questionnaires were distributed to the elementary principals and regular education teacher through inter-office mail on February 1, 1990 and to the compensatory education respondents at an inservice session of elementary compensatory education teachers on January 26, 1990. The completed questionnaires were to be returned via inter-office mail by Wednesday, February 7, 1990. Observations started February 5, 1990 and were to be completed by February 28, 1990.

PRESENTATION OF PROCESS DATA

The Chapter 1/Article 3 Process Evaluation Compensatory Education Teacher Survey, 1989-90 (see Appendix A for a copy) was distributed to A^2 elementary teachers at an inservice on January 26, 1990 and were due back on February 7, 1990. As of February 16, 1990 when results were tabulated, 18 of the 33 (54.5%) elementary teachers had returned the questionnaire. The detailed tabulated results are presented in Appendix D.

The Chapter 1/Article 3 Process Evaluation Regular Classroom Teacher Survey, 1989-90 (see Appendix A for a copy) was sent out to all first and second regular education teachers on February 1, 1990 and were requested back on or before February 7, 1990. As of February 16, 1990, 31 of 83 (37.3%) classroom teachers had returned the questionnaire. The results of these questionnaires are presented in Appendix D.

The principals at all A^2 sites were mailed on February 1, 1990 a questionnaire entitled Chapter 1/Article 3 Process Evaluation Principal Survey, 1989-90, (see Appendix A for a copy). Again, the completed surveys were requested back on or before February 7, 1990. A total of 12 of 23 (52.5%) principals returned their survey by February 16, 1990. The detailed tabulated results are presented in Appendix D.

In addition, each elementary teacher's classroom involved in the push-ins was to be observed during an entire compensatory education session. The observations started on February 7, 1990 and were concluded on March 30, 1990. A total of 53 of 83 (63.9%) elementary teachers were observed. It became evident from scheduled inservices, compensatory education teachers acting as substitutes, compensatory education/regular education teachers not keeping to their schedule, compensatory education testing, compensatory education teachers attending meetings, etc., it would not be possible to observe all

classrooms even within a two month period using five evaluators. The results of these observations and some general comments stemming from the observations are presented in Appendix E.

What follows are the salient points stemming from this year's process evaluation efforts of the 1989-90 A^2 program. The Manager and Director of the Evaluation Department with input from the Director of Compensatory Education reviewed the results of the questionnaires/observations and summarized them into the following categories which are presented below: strengths, weaknesses, and recommendations. The survey question number(s) after each strength or weakness refers to the master question number given in Appendix G that relates this number back to the three survey instruments - compensatory education teacher, classroom teacher, and principal.

Strengths of the A2 Program

From a combined review of current process findings (Appendix D and E) and the present description of the program, the following strengths listed below appear noteworthy. The reader should bear in mind that data collection instruments almost entirely relate to the mathematics push-in program in grades one and two and then secondarily to the new definition of reading strategy usage mainly in grades one and two. The data sources are listed parenthetically at the end of each question.

- Approximately 75% or more of the compensatory education and classroom teachers are using cooperative learning as part of their compensatory education instruction (77.8% and 74.2% respectively). A total of 83.4% of the principals indicate that their teachers were using cooperative learning as a part of compensatory education instruction. The part of compensatory education and classroom teachers' instructional time spent in cooperative learning activities during a typical week is 24.8% and 18.8% respectively (expressed as an average percentage across the reporting teachers). Classroom observations showed that 20.7% of

those seen had cooperative learning activities taking place. (Survey Questions 20 and 19 and Observation Item 3)

- Approximately 88.9% of the compensatory education teachers are incorporating the new definition of reading strategies into their CAT reading objective timeline. They appear keenly aware of what techniques they are incorporating at each grade level by their responses and principals agree that these techniques are being used in terms of frequency of use. (Survey Question 3)

- The most used new reading process by both compensatory education and classroom teachers is mapping/story frames followed in second place by question-answer relationship (QAR) for compensatory education teachers and prior knowledge use by classroom teachers. (Survey Question 5)

- Compensatory education teachers are spending two days for mathematics and three days for reading instruction as directed by the compensatory education program description. (Survey Question 4)

- Math manipulative inservice sessions for grades one and two appear to be well attended by classroom teachers (3.6 and 3.8 sessions on the average respectively for grades one and two) and by compensatory education teachers (2.0 and 1.7 sessions on the average respectively). (Survey Question 6)

Weaknesses of the A2 Program

From a combined review of current process findings (Appendix D and E) and the present description of the program, the following current program weaknesses appear worthy of in-depth study and review. Again, the reader should bear in mind that the data collection instruments almost entirely relate to the mathematics push-in program in grades one and two and then secondarily to the new definition of reading strategy usage mainly again in grades one and two. As in the last section, the data sources are listed parenthetically at the end of each question.

- There appears to be consensus of compensatory education and classroom teachers and principals that the mathematics push-in program is less effective (both in terms of overall and time-on-task effectiveness) than the pull-out program in grade two. There also appears

to be consensus of both compensatory education teachers and principals that the push-in program should not be expanded beyond grade two in mathematics. (Survey Questions 24, 28, and 22)

- At grade one in mathematics there appears to be an even split between whether the push-in or the pull-out is more effective (both overall and time-on-task effectiveness) according to all three respondent groups (classroom teachers, compensatory education teachers, and principals). (Survey Questions 23 and 27)

- Communication of agreed upon procedures appeared insufficient and/or lacking because no operational procedures were specified by anything like a simple majority of the respondents. The only agreed upon procedure for the operation of the math push-in classrooms is that planning for them is a shared responsibility and even this is agreed upon by only 27.7%, 35.5%, and 33.3% of the compensatory education and classroom teachers and principals respectively. (Survey Questions 12, 14, and 16 and Observation Items 1, 4, 5, and 7)

- The issue of teamwork (or how to teach cooperatively) is the most frequently suggested inservice by teachers and principals for first grade teachers if compensatory education reading instruction is to be offered in a push-in setting. Thus it is evident that teamwork must also be missing in a good share of the math push-in classrooms. (Survey Question 8)

- Since the modal number of compensatory education students per classroom is three per class it appears that the push-in mathematics program will not be a very effective use of compensatory education teacher time and it would appear we will continue to have problems with our state compensatory education consultation on this point. (Survey Question 9)

- Again in reading when we have a modal number of compensatory education students of four or five per class, the problem of the best use of time and resources of compensatory education dollars appears again to be evident. (Survey Question 10)

- Second grade classroom teachers seem to know a few of the new definition of reading strategies they use frequently, however, they could not give the specifics in terms of the CAT objective timeline. Some inservice training of these teachers seems to be necessary on how to employ these new reading strategies relative to their objective timeline at grade 2. (Survey Questions 3 and 5)

- The new compensatory education objective referenced testing program appears to have the following weaknesses: hard to read reports of results, less than useful results for compensatory education instruction, and undefined math objectives in terms of short verbal descriptors. These problems seem to be the result of changing from an old to a new test and thus the problems are more developmental in nature and take time plus better communications both from test developers and program people to resolve. (Survey Questions 1 and 2)

RECOMMENDATIONS

Based on this year's process evaluation findings and the observations of the evaluators involved in collecting the process data, the following recommendations are offered in an effort to improve the implementation of the A^2 program in the future.

- Hold up on the push-in mathematics program from further expansion beyond grade two until agreed upon operational procedures and practices can be established and communicated to all teachers involved in the grade one and two programs.

- Reconsider whether push-in mathematics programming can be cost effective when the modal number of students per classroom is so small that classroom teachers, compensatory education instructors, and principals plus our state compensatory education consultant doubt its utility.

- Develop a more systematic plan for communication and coordination of instructional matters on a regular basis. This plan should include methods to document communication between teachers, between principals and director, and between principals and teachers. This would also include methods of coordination of activities and objectives, techniques for feedback and monitoring program activities and processes to gather input concerning misunderstandings and ineffective program procedures.

- Plan out the school year's curriculum during the summer preceding the school year. Have in place and ready-to-go all of the activities that will occur during the year and be sure that all of the necessary information has been fully communicated to all parties concerned.

APPENDICES

APPENDIX A

CHAPTER 1/ARTICLE 3 PROCESS EVALUATION
1989-1990
COMPENSATORY EDUCATION TEACHER SURVEY

To assist in planning efforts, the Department of Evaluation, Testing, and Research requests that each compensatory education teacher involved in the math push-in program complete the attached questionnaire regarding program and building operations. Many future project endeavors will be based upon your responses and reactions to the questions contained in this instrument.

We want to obtain your individual perceptions about the programs, all responses will be kept confidential. Answer each question as it pertains to the program(s) you serve.

If you have any questions, please call Richard Claus (ext. 307).

Please complete and return the questionnaire via inter-office mail to Richard Claus, Program Evaluation Division no later than February 7, 1990.

School: _____ **Date:** _____

1. In comparison with the old compensatory education objective referenced test used last year, rate the degree to which the new testing program (1989-90) is either an improvement or not an improvement. Circle one rating for each of the following issues:

		Much Less	Less	About the Same	More	Much More
a.	Objectives have been appropriately selected for the needs of the pupils	1	2	3	4	5
b.	"Fit" with our curriculum/objectives	1	2	3	4	5
c.	Valid items to measure content (face validity)	1	2	3	4	5
d.	Items are free of gender bias	1	2	3	4	5
e.	Items are free of cultural bias	1	2	3	4	5
f.	Item format (number of items per page, print size, directions, pictures, color, etc.)	1	2	3	4	5
g.	Reliability of scores	1	2	3	4	5
h.	Procedures for test administration	1	2	3	4	5
i.	Clear and complete directions on test administration	1	2	3	4	5
j.	Easily read reports of results	1	2	3	4	5
k.	Utility of results for compensatory education instruction	1	2	3	4	5
l.	Turn around time from end of testing until receipt of test report	1	2	3	4	5

2. What improvements or changes, if any, need to be made either this year or next in the objective referenced testing program?

_____
_____
_____
_____

3. Have you incorporated the new definition of reading teaching strategies/ processes into your CAT reading objective timeline? (Check one)

___ Yes ... If yes, how are you incorporating the new definition of reading strategies into your timeline at the following grades?
(Check each grade level that applies and explain how.)

___ Grade 2 (How?) _____
_____
___ Grade 3 (How?) _____
_____
___ Grade 4 (How?) _____
_____
___ Grade 5 (How?) _____
_____
___ Grade 6 (How?) _____
_____

___ No

4. How many **days per week** do you provide instruction to students related to math and reading objectives on your building timeline? (Indicate number of days per week.)

_____ Math objectives
_____ Reading objectives

Comments: _____
_____
_____

5. Which one or two of the following new reading strategies/processes have you used the most this year? (Check one or two most employed)

___ Mapping/story frames
___ Know, want, learn (KWL) about topic
___ Directed reading - thinking activity (DRTA)
___ Question-answer relationship (QAR)
___ Prior knowledge use
___ Predicting
___ Power writing
___ Higher level questions
___ Thinking aloud
___ Problem solving
___ Success in reading and writing
___ Echo reading
___ Story line with pictures
___ Modeling
___ SQ3R
___ Whole language
___ Categorizing words
___ Other (please specify) _____

6. How many math manipulative inservices have you attended this and last year for each grade level listed below? (Indicate number attended.)

_____ Grade one
_____ Grade two
_____ Grade three
_____ Grade four
_____ Grade five
_____ Grade six

Comments: _____
_____
_____

7. Have you had enough inservice training with math manipulatives to provide an adequate year long math program? (Check one)

___ Yes
___ No ... If no, what additional training, if any, do you need?

_____
_____
_____
_____

8. What inservices do first grade teachers need in reading if compensatory education instruction is to be offered in a push-in setting?

_____
_____
_____
_____

9. How many math compensatory education students are there in school(s)?

Count	Building
_____	_____
_____	_____

10. How many reading compensatory education students are there in school(s)?

Count	Building
_____	_____
_____	_____

11. Do you feel that there should be a minimum number of compensatory education students per classroom to offer a math push-in?

____ Yes ... If yes, what is this minimum number of students?

_____
_____
_____
_____

____ No

12. What are the agreed upon procedures for the operation of math push-in?

_____
_____
_____
_____

13. In the math push-in setting, which students are you to serve?

_____
_____
_____
_____

14. During a typical week, how many days do you use math manipulatives?

_____ days per week

15. What control mechanisms, if any, do you have for push-in? Describe the techniques used by you and the classroom teacher to insure that you both work with the appropriate pupils.

_____
_____
_____
_____

16. Why does the first grade math push-in program use manipulatives?

_____
_____
_____
_____

17. In your instruction, how do you connect the concept development (manipulatives) to the symbolic level (textbook) to provide for transfer (bridging)?

_____
_____
_____

18. Have you used cooperative learning as part of compensatory education instruction?

____ Yes ... If yes, what has been your principal's reactions? _____
_____
_____

____ No

19. What part of your instructional time (expressed as a percentage) is spent in cooperative learning activities during a typical week?

_____

20. Have you started a second grade mathematics push-in? (Check one)

____ Yes ... If yes, how successful has it been in comparison to the pull-out program? (Circle your rating on the number line.)

Very Unsuccessful 1 2 3 4 5 Very Successful

____ No ... If no, why not? _____
_____
_____

21. Should the push-in program be expanded beyond grade two in mathematics? (Check one)

____ Yes
____ No

Comments: _____
_____

22. Which of the statements best reflects your judgement relative to the effectiveness in mathematics at grade one of the present push-in with manipulatives versus the typical pull-out program?

___ Pull-out is so much more educationally effective that push-in should be immediately discontinued
___ Pull-out still appears to be more effective than push-in
___ Pull-out and push-in approaches equally effective
___ Push-in still appears to be more effective than pull-out
___ Push-in is so much more educationally effective that the pull-out should be discontinued

Comments: _____

_____

23. Which of the statements best reflects your judgement relative to the effectiveness in mathematics at grade two of the present push-in with manipulatives versus the typical pull-out program?

___ Pull-out is so much more educationally effective that push-in should be immediately discontinued
___ Pull-out still appears to be more effective than push-in
___ Pull-out and push-in approaches equally effective
___ Push-in still appears to be more effective than pull-out
___ Push-in is so much more educationally effective that the pull-out should be discontinued

Comments: _____

_____

24. Since the push-in to be successful requires joint planning of both teachers, which of the following techniques would best free up time to jointly plan? (Check one)

___ Hire substitute during regular work day
___ Pay an after school stipend to extend the school day for planning purposes
___ Handle planning between 8:10 and 8:40
___ Other (please specify) _____

25. Do you feel that in the math push-in program that the compensatory education staff member shares the work load (i.e., preparation, planning, carrying out instruction, correction of papers, etc.) with the classroom teacher?

___ Yes
___ No ... If no, which task(s) does the compensatory education staff member fall short? _____

_____

_____

_____

26. Based on your experience to date, is the **push-in** in mathematics at grade one **more effective** in terms of keeping students on task (time-on-task) **than** the **pull-out?** (Check one)

____ Yes
____ No

Comments: _____

_____

_____

_____

27. Based on your experience to date, is the **push-in** in mathematics at grade two **more effective** in terms of keeping students on task (time-on-task) **than** the **pull-out?** (Check one)

____ Yes
____ No

Comments: _____

_____

_____

_____

28. Based on your past experience, what is your preferred method of teaching early elementary mathematics (grades 1-3) to compensatory education students? (Check one)

____ Manipulative based instruction
____ Paper and pencil computation instruction
____ A combined approach
____ Other (please specify) _____

29. What parental involvement techniques have you employed this year? List the techniques employed below.

_____

_____

_____

APPENDIX A

CHAPTER 1/ARTICLE 3 PROCESS EVALUATION
1989-1990
CLASSROOM TEACHER SURVEY

To assist in planning efforts, the Department of Evaluation, Testing, and Research requests that each grade 1 and 2 regular classroom teacher that works with a Chapter 1/Article 3 staff member to complete the attached questionnaire. Many future project endeavors will be based upon your responses and reactions to the questions contained in this instrument.

We want to obtain your individual perceptions about the programs, all responses will be kept confidential. Answer each question as it pertains to the program(s) you serve.

If you have any questions, please call Richard Claus (ext. 307).

Please complete and return the questionnaire via inter-office mail to Richard Claus, Program Evaluation Division no later than February 7, 1990.

School: _____ **Date:** _____

1. Have you incorporated the new definition of reading teaching strategies/ processes into your CAT reading objective timeline? (Check one)

   ____ Yes ... If yes, how are you incorporating the new definition of reading strategies into your timeline at the following grades?
   (Check each grade level that applies and explain how.)

   ___ Grade 2 (How?) _____
   _____
   ___ Grade 3 (How?) _____
   _____
   ___ Grade 4 (How?) _____
   _____
   ___ Grade 5 (How?) _____
   _____
   ___ Grade 6 (How?) _____
   _____

   ____ No

2. How many **days per week** do you provide instruction to students related to math and reading objectives on your building timeline? (Indicate number of days per week.)

   _____ Math objectives
   _____ Reading objectives

   Comments: _____
   _____
   _____

3. Which one or two of the following new reading strategies/processes have you used the most this year? (Check one or two most employed)

___ Mapping/story frames
___ Know, want, learn (KWL) about topic
___ Directed reading - thinking activity (DRTA)
___ Question-answer relationship (QAR)
___ Prior knowledge use
___ Predicting
___ Power writing
___ Higher level questions
___ Thinking aloud
___ Problem solving
___ Success in reading and writing
___ Echo reading
___ Story line with pictures
___ Modeling
___ SQ3R
___ Whole language
___ Categorizing words
___ Other (please specify) _____

4. How many math manipulative inservices have you attended this and last year for each grade level listed below? (Indicate number attended.)

_____ Grade one
_____ Grade two
_____ Grade three
_____ Grade four
_____ Grade five
_____ Grade six

Comments: _____
_____
_____

5. Have you had enough inservice training with math manipulatives to provide an adequate year long compensatory education math program? (Check one)

___ Yes
___ No ... If no, what additional training, if any, do you need?

_____
_____
_____
_____

6. What inservices do first grade teachers need in reading if compensatory education instruction is to be offered in a push-in setting?

_____
_____
_____
_____

7. How many math compensatory education students are there in your classroom?

_____

8. How many reading compensatory education students are there in your classroom?

_____

9. Do you feel that there should be a minimum number of compensatory education students per classroom to offer a math push-in?

____ Yes ... If yes, what is this minimum number of students?

_____
_____
_____
_____

____ No

10. What are the agreed upon procedures for the operation of math push-in?

_____
_____
_____
_____

11. In the math push-in setting, which students are you to serve?

_____
_____
_____
_____

12. During a typical week, how many days do you use math manipulatives?

_____ days per week

13. What control mechanisms, if any, do you have for push-in? Describe the techniques used by you and the classroom teacher to insure that you both work with the appropriate pupils.

_____
_____
_____
_____

14. Why does the first grade math push-in program use manipulatives?

_____
_____
_____
_____

15. In your instruction, how do you connect the concept development (manipulatives) to the symbolic level (textbook) to provide for transfer (bridging)?

_____
_____
_____

16. Have you used cooperative learning as part of compensatory education instruction?

____ Yes ... If yes, what has been your principal's reactions? _____
_____
_____

____ No

17. What part of your instructional time (expressed as a percentage) is spent in cooperative learning activities during a typical week?

_____

18. Have you started a second grade mathematics push-in? (Check one)

____ Yes ... If yes, how successful has it been in comparison to the pull-out program? (Circle your rating on the number line.)

Very Unsuccessful 1 2 3 4 5 Very Successful

____ No ... If no, why not? _____
_____
_____

____ Not applicable

19. Should the push-in program be expanded beyond grade two in mathematics? (Check one)

____ Yes
____ No

Comments: _____
_____

20. Which of the statements best reflects your judgement relative to the effectiveness in mathematics at grade one of the present push-in with manipulatives versus the typical pull-out program?

____ Pull-out is so much more educationally effective that push-in should be immediately discontinued
____ Pull-out still appears to be more effective than push-in
____ Pull-out and push-in approaches equally effective
____ Push-in still appears to be more effective than pull-out
____ Push-in is so much more educationally effective that the pull-out should be discontinued
____ Not applicable, I am grade two teacher

Comments: _____

_____

21. Which of the statements best reflects your judgement relative to the effectiveness in mathematics at grade two of the present push-in with manipulatives versus the typical pull-out program?

____ Pull-out is so much more educationally effective that push-in should be immediately discontinued
____ Pull-out still appears to be more effective than push-in
____ Pull-out and push-in approaches equally effective
____ Push-in still appears to be more effective than pull-out
____ Push-in is so much more educationally effective that the pull-out should be discontinued
____ Not applicable, I am a grade one teacher

Comments: _____

_____

22. Since the push-in to be successful requires joint planning of both teachers, which of the following techniques would best free up time to jointly plan? (Check one)

____ Hire substitute during regular work day
____ Pay an after school stipend to extend the school day for planning purposes
____ Handle planning between 8:10 and 8:40
____ Other (please specify) _____

23. Do you feel that in the math push-in program that the compensatory education staff member shares the work load (i.e., preparation, planning, carrying out instruction, correction of papers, etc.) with the classroom teacher?

____ Yes
____ No ... If no, on which task(s) does the compensatory education staff member fall short? _____

_____

_____

_____

24. Based on your experience to date, is the **push-in** in mathematics at grade one **more effective** in terms of keeping students on task (time-on-task) **than** the **pull-out?** (Check one)

____ Yes
____ No
____ Not applicable

Comments: _____

25. Based on your experience to date, is the **push-in** in mathematics at grade two **more effective** in terms of keeping students on task (time-on-task) **than** the **pull-out?** (Check one)

____ Yes
____ No
____ Not applicable

Comments: _____

26. Based on your past experience, what is your preferred method of teaching early elementary mathematics (grades 1-3) to compensatory education students? (Check one)

____ Manipulative based instruction
____ Paper and pencil computation instruction
____ A combined approach
____ Other (please specify) _____

THANK YOU!

APPENDIX A

CHAPTER 1/ARTICLE 3 PROCESS EVALUATION
1989-1990
PRINCIPAL SURVEY

To assist in planning efforts, the Department of Evaluation, Testing, and Research requests that each principal from a Chapter 1/Article 3 staff building complete the attached questionnaire regarding program and building operations. Many future project endeavors will be based upon your responses and reactions to the questions contained in this instrument.

We want to obtain your individual perceptions about the programs, all responses will be kept confidential. Answer each question as it pertains to the program(s) you serve.

If you have any questions, please call Richard Claus (ext. 307).

Please complete and return the questionnaire via inter-office mail to Richard Claus, Program Evaluation Division no later than February 7, 1990.

School: _____ **Date:** _____

1. In comparison with the old compensatory education objective referenced test used last year, rate the degree to which the new testing program (1989-90) is either an improvement or not an improvement. Circle one rating for each of the following issues:

		Much Less	Less	About the Same	More	Much More
a.	Objectives have been appropriately selected for the needs of the pupils	1	2	3	4	5
b.	"Fit" with our curriculum/objectives	1	2	3	4	5
c.	Valid items to measure content (face validity)	1	2	3	4	5
d.	Items are free of gender bias	1	2	3	4	5
e.	Items are free of cultural bias	1	2	3	4	5
f.	Item format (number of items per page, print size, directions, pictures, color, etc.)	1	2	3	4	5
g.	Reliability of scores	1	2	3	4	5
h.	Procedures for test administration	1	2	3	4	5
i.	Clear and complete directions on test administration	1	2	3	4	5
j.	Easily read reports of results	1	2	3	4	5
k.	Utility of results for compensatory education instruction	1	2	3	4	5
l.	Turn around time from end of testing until receipt of test report	1	2	3	4	5

2. What improvements or changes, if any, need to be made either this year or next in the objective referenced testing program?

_____
_____
_____
_____

3. Have your teachers incorporated the new definition of reading teaching strategies/processes into your CAT reading objective timeline? (Check one)

____ Yes ... If yes, how are you incorporating the new definition of reading strategies into your timeline at the following grades?
(Check each grade level that applies and explain how.)

___ Grade 2 (How?) _____
_____
___ Grade 3 (How?) _____
_____
___ Grade 4 (How?) _____
_____
___ Grade 5 (How?) _____
_____
___ Grade 6 (How?) _____
_____

____ No

4. How many **days per week** do your teachers provide instruction to students related to math and reading objectives on your building timeline? (Indicate number of days per week.)

_____ Math objectives
_____ Reading objectives

Comments: _____
_____
_____

5. How many math manipulative inservices have you attended this and last year for each grade level listed below? (Indicate number attended.)

_____ Grade one
_____ Grade two
_____ Grade three
_____ Grade four
_____ Grade five
_____ Grade six

Comments: _____
_____
_____

6. Have your teachers had enough inservice training with math manipulatives to provide an adequate year long math program? (Check one)

___ Yes
___ No ... If no, what additional training, if any, do you need?

_____
_____
_____
_____

7. What inservices do first grade teachers need in reading if compensatory education instruction is to be offered in a push-in setting?

_____
_____
_____
_____

8. How many math compensatory education students are there in your school?

_____

9. How many reading compensatory education students are there in your school?

_____

10. Do you feel that there should be a minimum number of compensatory education students per classroom to offer a math push-in?

___ Yes ... If yes, what is this minimum number of students?

_____
_____
_____
_____

___ No

11. What are the agreed upon procedures for the operation of math push-in?

_____
_____
_____
_____

12. What procedures, if any, do you have in place to monitor the implementation of the mathematics push-in program?

_____
_____
_____
_____

13. Why does the first grade math push-in program use manipulatives?

_____
_____
_____
_____

14. Are your teachers using cooperative learning as part of compensatory edution instruction?

____ Yes ... If yes, what has been your reaction(s)? _____
_____
_____

____ No

15. Has your building started a second grade mathematics push-in? (Check one)

____ Yes ... If yes, how successful has it been in comparison to the pull-out program? (Circle your rating on the number line.)

Very Unsuccessful 1 2 3 4 5 Very Successful

____ No ... If no, why not? _____
_____
_____

16. Should the push-in program be expanded beyond grade two in mathematics? (Check one)

____ Yes
____ No

Comments: _____
_____

17. Which of the statements best reflects your judgement relative to the effectiveness in mathematics at grade one of the present push-in with manipulatives versus the typical pull-out program?

____ Pull-out is so much more educationally effective that push-in should be immediately discontinued
____ Pull-out still appears to be more effective than push-in
____ Pull-out and push-in approaches equally effective
____ Push-in still appears to be more effective than pull-out
____ Push-in is so much more educationally effective that the pull-out should be discontinued

Comments: _____

_____

18. Which of the statements best reflects your judgement relative to the effectiveness in mathematics at grade two of the present push-in with manipulatives versus the typical pull-out program?

____ Pull-out is so much more educationally effective that push-in should be immediately discontinued
____ Pull-out still appears to be more effective than push-in
____ Pull-out and push-in approaches equally effective
____ Push-in still appears to be more effective than pull-out
____ Push-in is so much more educationally effective that the pull-out should be discontinued

Comments: _____

_____

19. Since the push-in to be successful requires joint planning of both teachers, which of the following techniques would best free up time to jointly plan? (Check one)

____ Hire substitute during regular work day
____ Pay an after school stipend to extend the school day for planning purposes
____ Handle planning between 8:10 and 8:40
____ Other (please specify) _____

20. Do you feel that in the math push-in program that the compensatory education staff member shares the work load (i.e., preparation, planning, carrying out instruction, correction of papers, etc.) with the classroom teacher?

____ Yes
____ No ... If no, which task(s) does the compensatory education staff member fall short? _____

_____

_____

_____

21. Based on your experience to date, is the **push-in** in mathematics at grade one **more effective** in terms of keeping students on task (time-on-task) **than** the **pull-out?** (Check one)

____ Yes
____ No

Comments: _____

_____

_____

_____

22. Based on your experience to date, is the **push-in** in mathematics at grade two **more effective** in terms of keeping students on task (time-on-task) **than** the **pull-out?** (Check one)

____ Yes
____ No

Comments: _____

_____

_____

_____

23. Based on your past experience, what is your preferred method of teaching early elementary mathematics (grades 1-3) to compensatory education students? (Check one)

____ Manipulative based instruction
____ Paper and pencil computation instruction
____ A combined approach
____ Other (please specify) _____

24. What parental involvement techniques for compensatory education have your staff employed this year? List the techniques employed below.

_____

_____

_____

_____

_____

THANK YOU!

APPENDIX B

1989-90 CHAPTER 1/ARTICLE 3 PROCESS EVALUATION TEACHER OBSERVATION CHECKLIST FOR MATHEMATICS PUSH-IN CLASSROOM

School: _____
Grade: _____
Classroom: _____
Length of Observation: _____

DIRECTIONS: Use a check (✓) to indicate the presence of an instructional dimension.

1. Objective of the day:

   ____ Teacher stated (i.e., _____)

   OR

   ____ Ask one or two students privately (i.e., _____)

2. Content of instruction:

   ____ Number development (i.e., bean books, story board, unifix trains, window, etc., _____)
   ____ Place value (i.e., bean and cup, unifix cubes, base 10 boxes for grade 2 and above, etc., _____)
   ____ Patterns (i.e., junk boxes, pattern blocks, etc., _____)
   ____ Sorting and classifications (i.e., junk boxes, etc., _____)
   ____ Graphing
   ____ Mental math
   ____ Language development of math
   ____ Other (please specify) _____

3. Nature of instruction:

   ____ Cooperative learning
   ____ Teacher directed
   ____ Independent
   ____ Other (please specify) _____

4. Format of instructions in terms of elements observed:

___ Input/modeling
___ Directions
___ Activity
___ Reinforcement of procedures
___ Standards for day
___ Other elements (please specify) _____
_____
_____

5. Who is in charge of the classroom?

___ Compensatory education teacher
___ Regular education teacher
___ Both

6. Comfort level of teachers: (Check one rating that best describes the working relationship between the two teachers.)

___ Excellent
___ Good
___ Average
___ Fair
___ Poor

7. Did the compensatory education teacher work exclusively with compensatory education pupils?

___ Yes
___ No
___ Unable to determine

8. Estimate of the average number of minutes of active participation of the typical compensatory education pupil.

_____ minutes

Comments: (Alternative activities or other procedures that may increase time-on-task of pupils.) _____
_____
_____

9. What recommendations, if any, would you make to improve this push-in session?

_____
_____
_____
_____
_____
_____
_____
_____

APPENDIX C

TABLE C.1. MASTER QUESTION MATRIX FOR COMPENSATORY EDUCATION TEACHER, CLASSROOM TEACHER, AND PRINCIPAL CHAPTER 1/ ARTICLE 3 PROCESS EVALUATION SURVEY, 1989-90.

Master Question Number	Survey Question Numbers		
	Compensatory Education Teacher	Classroom Teacher	Principal
1	1	--	1
2	2	--	2
3	3	1	3
4	4	2	4
5	5	3	—
6	6	4	5
7	7	5	6
8	8	6	7
9	9	7	8
10	10	8	9
11	11	9	10
12	12	10	11
13	13	11	—
14	—	--	12
15	14	12	—
16	15	13	--
17	16	14	13
18	17	15	--
19	18	16	14
20	19	17	--
21	20	18	15
22	21	19	16
23	22	20	17
24	23	21	18
25	24	22	19
26	25	23	20
27	26	24	21
28	27	25	22
29	28	26	23
30	29	--	24

APPENDIX D

CHAPTER 1/ARTICLE 3 PROCESS EVALUATION RESULTS, 1989-90

Responding Groups:

Compensatory Education Teachers (CET)--(N=18)
Classroom Teacher (CT)--(N=31)
Principals (P)--(N=12)

Numbering of Questions:

The tabulated results are by master question number that relate the three sets of questions to a common numbering system (see Appendix C for a matrix that relates the numbering systems of the three surveys to the master question number).

1. In comparison with the old compensatory education objective referenced test used last year, rate the degree to which the new testing program (1989-90) is either an improvement or not an improvement. Circle one rating for each of the following issues:

Much Less	Less	About the Same	More	Much More
1	2	3	4	5

		Average Rating CET	P
a.	Objectives have been appropriately selected for the needs of the pupils	3.3	3.4
b.	"Fit" with our curriculum/objectives	3.3	3.5
c.	Valid items to measure content (face validity)	3.5	3.4
d.	Items are free of gender bias	2.9	3.4
e.	Items are free of cultural bias	2.9	3.4
f.	Item format (number of items per page, print size, directions, pictures, color, etc.)	3.2	3.4
g.	Reliability of scores	3.0	2.9
h.	Procedures for test administration	3.2	3.0
i.	Clear and complete directions on test administion	2.9	3.1
j.	Easily read reports of results	1.9	2.4
k.	Utility of results for compensatory education instruction	2.6	2.9
l.	Turn around time from end of testing until receipt of test report	2.8	3.0

2. What improvements or changes, if any, need to be made either this year or next in the objective referenced testing program?

	CET	P
• Results need to be stated in a clearer more informative manner	6	2
• Define math objectives	3	2
• Eliminate it because we do too much testing	2	1
• Reading selections should be longer to parallel CAT and MEAP	0	1
• Objectives should "fit" with building objectives	1	0

3. Have you incorporated the new definition of reading teaching strategies/ processes into your CAT reading objective timeline? (Check one)

	CET	CT	P
Yes	16 (88.9%)	20 (64.5%)	10 (83.3%)
No	0 (0.0%)	0 (0.0%)	2 (16.7%)
Not Applicable/ No Response	2 (11.1%)	11 (35.5%)	0 (0.0%)
Total	18 (100.0%)	31 (100.0%)	12 (100.0%)

If yes, how are you incorporating the new definition of reading strategies into your timeline at the following grades?

Grade 2	CET	CT	P
• Incorporated but no techniques specified	0	20	0
• Story mapping	7	0	4
• More brainstorming before reading using predicting and different questioning techniques	6	0	2
• Question-answer relationship (QAR)	5	0	3
• Know, want, learn (KWL) about topic	3	0	3
• Prior knowledge use	3	0	1
• Echo reading	3	0	0
• Children's literature for comprehension	3	0	0
• Thinking aloud	2	0	0
• Directed reading	1	0	0
• McGraw-Hill text daily	1	0	1
• NDR to teach main idea	1	0	0
• Story frames	1	0	0
• Modeling	1	0	1
• Cooperative learning	0	0	1
• Context clues	0	0	1
• Phonics	0	0	1
• Directed reading-thinking activity	0	0	1
• Teaching skills in context	0	0	1

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Grade 3	CET	CT	P
• Incorporated but no techniques specified	2	--	0
• Story mapping	7	--	4
• More brainstorming before reading using predicting and different questioning techniques	4	--	2
• QAR	5	--	3
• KWL	3	--	3
• Prior knowledge	3	--	1
• Children's literature for comprehension	3	--	0
• Thinking aloud	2	--	0
• More reading in the informational areas	1	--	0
• Echo reading	1	--	0
• DRTA	1	--	2
• Categorizing words	1	--	0
• Context clues	0	--	1
• Phonics	0	--	1
• Sight words	0	--	1
• Modeling	1	--	1
• McGraw-Hill text daily	0	--	1

Grade 4	CET	CT	P
• Incorporated but no techniques specified	2	--	0
• Story mapping	7	--	3
• Brainstorming before reading involving predicting	6	--	1
• QAR	4	--	2
• Prior knowledge	3	--	1
• Children's literature for comprehension	3	--	0
• KWL	2	--	2
• Echo reading	2	--	0
• Categorizing words	2	--	0
• DRTA	1	--	2
• CAT objectives with new definition of reading	1	--	0
• More reading in the informational areas	1	--	0
• McGraw-Hill text daily	1	--	0
• Thinking aloud	1	--	0
• Modeling	1	--	1
• Cooperative learning	0	--	1

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Grade 5	CET	CT	P
• Incorporated but no techniques specified	2	--	0
• Story mapping	9	--	3
• QAR	7	--	2
• More brainstorming before reading using predicting and different questioning techniques	5	--	1
• KWL	3	--	1
• Prior knowledge	3	--	0
• Children's literature for comprehension	3	--	0
• Echo reading	2	--	0
• Categorizing words	2	--	0
• Thinking aloud	2	--	0
• McGraw-Hill text daily	1	--	1
• More readings in the informational areas	1	--	0
• CAT objectives plus new definition of reading	1	--	0
• Modeling	1	--	1
• DRTA	0	--	2

Grade 6	CET	CT	P
• Incorporated but no techniques specified	2	--	0
• Story mapping	8	--	3
• More brainstorming before reading using predicting and other questioning techniques	6	--	1
• QAR	4	--	2
• KWL	3	--	2
• Children's literature for comprehension	3	--	0
• Prior knowledge	2	--	1
• Thinking aloud	2	--	0
• Echo reading	1	--	0
• More reading in the informational areas	1	--	0
• Modeling	1	--	1
• DRTA	1	--	2
• CAT objectives and new definition of reading	1	--	0
• McGraw-Hill text daily	0	--	1

4. How many **days per week** do you provide instruction to students related to math and reading objectives on your building timeline? (Indicate number of days per week.)

	Math Objectives			Reading Objectives		
	CET	CT	P	CET	CT	P
Modal number/week	2.0	5.0	2.0	3.0	5.0	3.0
Average number/week	2.2	3.9	2.6	3.1	4.2	3.4

5. Which one or two of the following new reading strategies/processes have you **used the most** this year? (Check one or two **most** employed.)

	CET	CT
• Mapping/story frames	10	17
• Know, want, learn (KWL) about topic	5	4
• Directed reading - thinking activity (DRTA)	7	10
• Question-answer relationship (QAR)	8	8
• Prior knowledge use	7	14
• Predicting	6	8
• Power writing	0	6
• Higher level questions	2	2
• Thinking aloud	2	4
• Problem solving	2	6
• Success in reading and writing	0	7
• Echo reading	0	4
• Story line with pictures	1	2
• Modeling	2	8
• SQ3R	2	2
• Whole language	0	5
• Categorizing words	1	4

6. How many math manipulative inservices have you attended this and last year for each grade level listed below? (Indicate number attended.)

	Average Number Attended		
	CET	CT	P
Grade one	2.0	3.6	1*
Grade two	1.7	3.8	"
Grade three	0.6	—	"
Grade four	0.8	—	"
Grade five	0.3	—	"
Grade six	0.9	—	"

*Each responding principal attended a single inservice. Approximately half of the principals were not sure about grade level of inservice attended.

7. Have you had enough inservice training with math manipulatives to provide an adequate year long math program? (Check one)

	CET	CT	P
Yes	14 (77.8%)	22 (71.0%)	10 (83.3%)
No	4 (22.2%)	8 (25.8%)	2 (16.7%)
No Response	0 (0.0%)	1 (3.2%)	0 (0.0%)
Total	18 (100.0%)	31 (100.0%)	12 (100.0%)

If no, what additional training, if any, do you need?

	CET	CT	P
• Yearly reinforcement and review of what had been presented in the past	1	8	1
• Added tips on manipulatives	1	1	0
• Place value	0	1	0
• Training should be continuous	1	0	0
• Fractions	1	0	0
• Rounding	1	0	0
• Estimation	1	0	0
• Metrics	1	0	0
• Money	1	0	0
• Time	1	0	0
• Story problems	1	0	0
• Area	1	0	0

8. What inservices do first grade teachers need in reading if compensatory education instruction is to be offered in a push-in setting?

	CET	CT	P
• How to teach cooperatively (teamwork)	4	5	2
• Classroom management to lessen distraction of two teachers in room at once	2	4	0
• Suggestion on how to incorporate compensatory education services into reading program	2	1	0
• Teachers need to know that our reading activities only supplement their own	3	0	0
• Story telling (with pictures)	2	2	0
• Phonics	2	0	0
• Must have planning time with first grade teacher before I can answer	2	0	0
• Questioning for higher level thinking/problem solving	1	1	0
• Success in reading/writing modules (whole language)	0	2	0
• Modeling	0	2	0
• Making story books	0	1	0
• New reading series	0	1	1
• Predicting	0	1	0
• Thinking aloud	0	1	0
• Power writing	0	1	0
• DRTA	0	1	0
• QAR	0	1	0
• Observation and evaluation of instruction	0	0	1
• Materials beyond reading series	1	0	0

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9A. How many math compensatory education students are there in your school(s)?

	CET	P
Baillie	43*	72
Coulter	--	—
Emerson	23	--
Fuerbringer	--	13
N. Haley	44	--
Heavenrich	65	—
Herig	29	29
Houghton	--	—
Jerome	22	23
Jones	61	—
Kempton	27	12
Longfellow	--	93
Longstreet	80	--
J. Loomis	69	—
Merrill Park	23	24
C. F. Miller	—	—
J. Moore	—	35
Morley	60	—
J. Rouse	11	56
Salina	--	—
Stone	—	63
Webber Ele.	34**	—
Zilwaukee	—	2

*Grades 1 and 2.
**My count only.

9B. How many math compensatory education students are there in your classroom?

	CT
Average Number	6.0
Modal Number	3
Median Number	5
Limits of Range	1 to 14

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10A. How many reading compensatory education students are there in your school(s)?

	CET	P
Baillie	28*	115
Coulter	--	—
Emerson	38	--
Fuerbringer	—	23
N. Haley	72	--
Heavenrich	95	—
Herig	40	40
Houghton	—	—
Jerome	48	48
Jones	84	—
Kempton	26	22
Longfellow	—	135
Longstreet	71	--
J. Loomis	66	—
Merrill Park	62	60
C. F. Miller	--	—
J. Moore	—	54
Morley	64	—
J. Rouse	11	73
Salina	—	—
Stone	—	93
Webber Ele.	80**	—
Zilwaukee	--	0

*Second grade only.
**My count only.

10B. How many reading compensatory education students are there in your classroom?

	CT
Average Number	6.7
Modal Number	4,5
Median Number	6
Limits of Range	0 to 17

11. Do you feel that there should be a minimum number of compensatory education students per classroom to offer a math push-in?

	CET	CT	P
Yes	13 (72.2%)	14 (45.2%)	6 (50.0%)
No	5 (27.8%)	14 (45.2%)	5 (41.7%)
No Response	0 (0.0%)	3 (9.6%)	1 (8.3%)
Total	18 (100.0%)	31 (100.0%)	12 (100.0%)

If yes, what is this minimum number of students?

	CET	CT	P
Average Minimum	7.4	5.2	6.0
Modal Minimum	5	5	3,5,10
Limits of Range	2-25	1-10	3-10

12. What are the agreed upon procedures for the operation of math push-in?

	CET	CT	P
• Planning is a shared effort	5	11	4
• Instruction is the responsibility of the classroom teacher	4	0	3
• Compensatory education teacher helps only compensatory education children	4	4	3
• Both teachers teach the lesson	3	0	0
• Don't push-in if classroom teacher is absent	2	0	0
• Math their way	2	0	0
• Classroom teacher prepares materials	1	0	0
• Thirty minutes of service regardless of number of compensatory education pupils twice per week	1	3	1
• Pull-out children if regular classroom teacher absent	1	1	0
• Compensatory education teacher reviews and reteaches	1	0	3
• Push-in service only given when requested by teacher	1	0	0
• None, every classroom is different	1	2	1
• Classroom teacher does grading	0	0	1
• Planning is up to classroom teacher	0	1	0
• Agreement on activity/objective to work on	0	3	0

13. In the math push-in setting, which students are you to serve?

	CET	CT
• Only compensatory education students	14	0
• Depends upon classroom (some only compensatory education and others entire classroom)	2	0
• All	0	20
• Students not on compensatory education	0	7

14. What procedures, if any, do you have in place to monitor the implementation of the mathematics push-in program?

	P
• Classroom observations	7
• Faculty meeting discussion and questions	3
• Teacher discussion	2
• Lesson plans checked every two weeks	1
• Scheduled times	1
• Pre- and post-testing	1
• No monitoring possible because of vague guidelines	1

15. During a typical week, how many days do you use math manipulatives?

	CET	CT
Average Number of Days Per Week	2.5	3.1
Modal Number of Days Per Week	2	2

16. What control mechanisms, if any, do you have for push-in? Describe the techniques used by you and the classroom teacher to insure that you both work with the appropriate pupils.

	CET	CT
• Classroom teacher teaches whole class while compensatory education teacher gives individual help	8	0
• Sit compensatory education students together	6	7
• None		
• Names of students posted	2	1
• Team teaching approach	1	0
• Send child to appropriate teacher	1	1
• Have classroom teacher focus on "near normal" child	0	1
• Try to work with my compensatory education pupils	0	2

17. Why does the first grade math push-in program use manipulatives?

	CET	CT	P
• For better understanding of what math concepts really mean (addition, subtraction, and place value) because of the practice with manipulatives at the concrete level (hands on and visualization speeds the learning process)	8	18	6
• Better understanding of our number system/math concepts	5	0	6
• To teach reasoning and logic	0	0	1

18. In your instruction, how do you connect the concept development (manipulatives) to the symbolic level (textbook) to provide for transfer (bridging)?

	CET	CT
• Writing problems and answers	10	16
• Too long for an explanation but I do use it	0	3
• Matching/naming	2	0
• We use the connecting level	0	2
• The way Kathy tells us at the inservice	2	0
• Having students find a variety of solutions to problems	1	0
• Carefully, as understanding indicates	0	1
• Correlates with textbook	0	1
• Yes, when the student is ready	1	0
• No response	2	8

19. Have you used (or are your teachers using) cooperative learning as part of compensatory education instruction?

	CET	CT	P
Yes	14 (77.8%)	23 (74.2%)	10 (83.4%)
No	3 (16.7%)	3 (9.7%)	1 (8.3%)
No Response	1 (5.5%)	5 (16.1%)	1 (8.3%)
Total	18 (100.0%)	31 (100.0%)	12 (100.0%)

If yes, what has been your principal's reactions?

	CET	CT	P
• Supportive//favorable/excellent	9	17	4
• More planning should be taken to plan both regular and compensatory education	0	0	2
• Don't know/no response	5	6	4

20. What part of your instructional time (expressed as a percentage) is spent in cooperative learning activities during a typical week?

Percentage of Times Spent in Cooperative Learning	CET	CT
0%	3	1
Small	0	1
5%	0	5
10%	2	2
15%	0	2
20%	3	3
25%	5	2
30%	2	1
50%	0	2
60%	0	1
75%	1	0
Unable to respond	3	0
Modal percentage	25%	5%
Average percentage	24.8%	18.8%

21. Have you started a second grade mathematics push-in? (Check one)

	CET	CT	P
Yes	15 (83.3%)	11 (84.6%)	12 (100.0%)
No	3 (16.7%)	2 (15.4%)	0 (0.0%)
No Response	0 (0.0%)	0 (0.0%)	0 (0.0%)
Total	18 (100.0%)	13 (100.0%)	12 (100.0%)

If yes, how successful has it been in comparison to the pull-out program? (Circle your rating on the number line.)

Very Unsuccessful				Very Successful
1	2	3	4	5

	N	Avg Rating
CET	15	3.5
CT	8	3.2
P	12	3.0

If no, why not?

	CET
• Scheduling conflict	1
• Success with traditional method	1
• Not involved	1

22. Should the push-in program be expanded beyond grade two in mathematics? (Check one)

	CET	CT	P
Yes	4 (22.2%)	15 (48.4%)	3 (25.0%)
No	6 (33.3%)	6 (19.4%)	7 (58.3%)
Don't Know	3 (16.7%)	1 (3.2%)	2 (16.7%)
No Response	5 (27.8%)	9 (29.0%)	0 (0.0%)
Total	18 (100.0%)	31 (100.0%)	12 (100.0%)

Comments:

	CET	CT	P
• Yes, continue the process in the elementary because of manipulatives	0	4	0
• Yes, it would be beneficial for third graders	2	0	0
• Yes, wherever needed of course	0	1	0
• Yes, helps lessen time wasted and makes sure that activities are the same as the classroom	0	1	0
• Yes, maybe to grade 3	0	1	0
• Yes, less time for grades 4-6	0	0	1
• Yes, only expand one grade at a time after careful planning	0	0	1
• Undecided, only if teachers agree	0	0	1
• Undecided, it should depend on student needs	0	0	1
• No, pull-out more students and save time	3	1	5
• No, upper grade level teachers are less flexible and are less likely to accept change	2	0	0
• No, more can be done in small groups than entire group setting of push-in	3	0	0

Comments: (Continued)

	CET	CT	P
• No, it creates more scheduling problems when you cannot combine classrooms	1	0	0
• No, poor idea/farce	1	1	0
• No, it would be better if compensatory education teacher can work with all students	0	0	1
• No, when expanded more help will be needed	0	0	1
• No, by grade 3 children should be able to transfer to paper especially if K-2 have done an adequate job	0	1	0

23. Which of the statements best reflects your judgement relative to the effectiveness in <u>mathematics</u> at grade one of the present push-in with manipulatives versus the typical pull-out program?

	CET	CT	P
Pull-out is so much more educationally effective that push-in should be immediately discontinued	2 (11.1%)	4 (12.9%)	3 (25.0%)
Pull-out still appears to be more effective than push-in	4 (22.2%)	5 (16.1%)	4 (33.3%)
Pull-out and push-in approaches equally effective	6 (33.4%)	4 (12.9%)	1 (8.4%)
Push-in still appears to be more effective than pull-out	2 (11.1%)	1 (3.2%)	0 (0.0%)
Push-in is so much more educationally effective than the pull-out should be discontinued	4 (22.2%)	4 (12.9%)	4 (33.3%)
Not applicable, I am a grade 2 teacher	0 (0.0%)	11 (35.5%)	0 (0.0%)
No response	0 (0.0%)	2 (6.5%)	0 (0.0%)
Total	18 (100.0%)	31 (100.0%)	12 (100.0%)

24. Which of the statements best reflects your judgement relative to the effectiveness in mathematics at grade two of the present push-in with manipulatives versus the typical pull-out program?

	CET	CT	P
Pull-out is so much more educationally effective that push-in should be immediately discontinued	2 (11.1%)	1 (3.2%)	3 (25.0%)
Pull-out still appears to be more effective than push-in	6 (33.3%)	3 (9.7%)	4 (33.4%)
Pull-out and push-in approaches equally effective	5 (27.8%)	4 (12.9%)	2 (16.6%)
Push-in still appears to be more effective than pull-out	5 (27.8%)	2 (6.4%)	1 (8.4%)
Push-in is so much more educationally effective than the pull-out should be discontinued	0 (0.0%)	1 (3.2%)	2 (16.6%)
Not applicable, I am a grade 1 teacher	0 (0.0%)	14 (45.2%)	0 (0.0%)
No response	0 (0.0%)	6 (19.4%)	0 (0.0%)
Total	18 (100.0%)	31 (100.0%)	12 (100.0%)

25. Since the push-in to be successful requires joint planning of both teachers, which of the following techniques would best free up time to jointly plan? (Check one)

	CET	CT	P
Hire substitute during regular work day	6 (33.3%)	10 (32.3%)	4 (33.3%)
Pay an after school stipend to extend the school day for planning purposes	5 (27.7%)	9 (29.0%)	4 (33.3%)
Handle planning between 8:10 and 8:40	3 (16.7%)	5 (16.1%)	3 (25.0%)
Other (please specify):			
- All the above	1 (11.1%)	0 (0.0%)	0 (0.0%)
- Handle between 12:20-1:35 (longer lunch hour)	0 (0.0%)	1 (3.2%)	0 (0.0%)
- Handle between 8:10-3:10	0 (0.0%)	0 (0.0%)	1 (8.4%)
No Response	3 (16.7%)	6 (19.4%)	0 (0.0%)
Total	18 (100.0%)	31 (100.0%)	12 (100.0%)

26. Do you feel that in the math push-in program that the compensatory education staff member shares the work load (i.e., preparation, planning, carrying out instruction, correction of papers, etc.) with the classroom teacher?

	CET	CT	P
Yes	11 (61.1%)	14 (45.2%)	9 (75.0%)
No	6 (33.3%)	16 (51.6%)	2 (16.4%)
No Response	1 (5.6%)	1 (3.2%)	1 (8.3%)
Total	18 (100.0%)	31 (100.0%)	12 (100.0%)

If no, which task(s) does the compensatory education staff member fall short?

	CET	CT	P
• Correcting papers	3	1	0
• Instruction/teaching	3	0	1
• Planning lesson	0	1	1
• Preparation of materials	0	4	0
• All tasks	0	1	0
• All but carrying out instruction	0	2	0
• Starting on time	0	1	0

27. Based on your experience to date, is the **push-in** mathematics at grade one **more effective** in terms of keeping students on task (time-on-task) **than** the **pull-out?** (Check one)

	CET	CT	P
Yes	6 (33.3%)	7 (22.6%)	6 (50.0%)
No	11 (61.1%)	8 (25.8%)	5 (41.7%)
Undecided	0 (0.0%)	1 (3.2%)	1 (8.3%)
No Response	1 (5.6%)	15 (48.4%)	0 (0.0%)
Total	18 (100.0%)	31 (100.0%)	12 (100.0%)

28. Based on your experience to date, is the **push-in** in mathematics at grade two **more effective** in terms of keeping students on task (time-on task) **than** the **pull-out?** (Check one)

	CET	CT	P
Yes	7 (38.9%)	4 (12.9%)	4 (33.3%)
No	10 (55.6%)	8 (25.8%)	6 (50.0%)
Undecided	0 (0.0%)	1 (3.2%)	2 (16.7%)
No Response	1 (5.5%)	18 (58.1%)	0 (0.0%)
Total	18 (100.0%)	31 (100.0%)	12 (100.0%)

29. Based on your past experience, what is your preferred method of teaching early elementary mathematics (grades 1-3) to compensatory education students? (Check one)

	CET	CT	P
Manipulative based instruction	0 (0.0%)	3 (9.7%)	2 (16.7%)
Paper and pencil computation instruction	0 (0.0%)	0 (0.0%)	0 (0.0%)
A combined approach	18 (100.0%)	28 (90.3%)	9 (75.0%)
Undecided	0 (0.0%)	0 (0.0%)	1 (8.3%)
Total	18 (100.0%)	31 (100.0%)	12 (100.0%)

30. What parental involvement techniques have you employed this year? List the techniques employed below.

	CET	P
• Parent-teacher conferences	9	6
• Called parents (phone call)	6	3
• Parents as room helpers/tutors/and runner of copies	4	2
• Parent meetings at night	2	3
• Conducted parental workshop on the "Read Aloud Program"	2	2
• Sent notes home	2	0
• Parent "Help Packets" given on personal basis	1	0
• Share McGraw-Hill story by story vocabulary list	1	0
• Potluck dinner	1	0
• Explanation of program	0	1
• John Peterson meeting	0	1
• We invited some parents for some grade level meetings	0	1

APPENDIX E

1989-90 CHAPTER 1/ARTICLE 3 PROCESS EVALUATION TEACHER OBSERVATION CHECKLIST FOR MATHEMATICS PUSH-IN CLASSROOM

Demographics of Observations:

- First and second grade classrooms observed (N=53)
- Period of observations: February 7 through March 30, 1990
- Classrooms observed as percent of total to be observed: 63.9% (or 53 of 83 classrooms)
- Elementary buildings where one or more observations occurred: 20 of 23 (87.0%) exceptions were Coulter, Longstreet, and Miller
- Average length of observation: 38.4 minutes (range 16 to 75 minutes)

1. Objective of the day:

- Teacher stated	42 (79.2%)
- Required asking one or two students privately	11 (20.8%)
Total	53 (100.0%)

2. Content of instruction:

- Number development (i.e., bean books, story board, unifix trains, window, etc.)	17 (24.3%)
- Place value (i.e., bean and cup, unifix cubes, base 10 boxes for grade 2 and above, etc.)	30 (42.9%)
- Patterns (i.e., junk boxes, pattern blocks, etc.)	4 (5.7%)
- Sorting and classifications (i.e., junk boxes, etc.)	2 (2.9%)
- Graphing	0 (0.0%)
- Mental math	5 (7.1%)
- Language development of math	8 (11.4%)
- Other (please specify)	
--Money	2 (2.9%)
--Multiplication of single digits using manipulatives	1 (1.4%)
--Worksheets on time, two column addition with carrying and two column subtraction with regrouping	1 (1.4%)
Total*	70 (100.0%)

*Multiple categories possible per teacher.

3. Nature of instruction:

- Cooperative learning	11 (20.7%)
- Teacher directed	31 (58.6%)
- Independent	11 (20.7%)
Total	53 (100.0%)

4. Format of instruction in terms of elements observed:

- Input/modeling	24 (45.3%)
- Directions	43 (81.1%)
- Activity	45 (84.9%)
- Reinforcement of procedures	24 (45.3%)
- Standards for day	21 (39.3%)
- Other elements (please specify)	
--Positive reinforcement	6 (11.3%)
--Guided practice	4 (7.5%)
--Closure	1 (1.9%)
--Independent practice	1 (1.9%)
--Worksheet	1 (1.9%)

5. Who is in charge of the classroom?

- Compensatory education teacher	8 (15.1%)
- Regular education teacher	29 (54.7%)
- Both	16 (30.2%)
Total	53 (100.0%)

6. Comfort level of teachers: (Check one rating that best describes the working relationship between the two teachers.)

- Excellent	14 (26.4%)
- Good	26 (49.1%)
- Average	7 (13.2%)
- Fair	6 (11.3%)
- Poor	0 (0.0%)
Total	53 (100.0%)

7. Did the compensatory education teacher work exclusively with compensatory education pupils?

- Yes	26 (49.1%)
- No	19 (35.8%)
- Unable to determine	8 (15.1%)
Total	53 (100.0%)

8. Estimate of the average number of minutes of active participation of the typical compensation education pupil.

- As indicated above the average typical push-in session observed lasted 38.4 minutes (ranged from 16 to 75 minutes).
- The average number of minutes of active participation across all push-in sessions observed was 35 minutes (ranged from 13 to 75 minutes).
- Below is the frequency distribution of the percentage of active participation as a function of the length of the mathematics push-in classroom.

Percentage of Active Participation	Classroom Count
100-90.1	33
90-80.1	13
80-70.1	2
70-60.1	1
60-50.1	1
50-40.1	3
40-30.1	0
30-20.1	0
20-10.1	0
10- 0.0	0
Total	53

Comments: (Alternative activities or other procedures that may increase time-on-task of pupils.)

- Sponge activities
- Add another activity - a variation of the same task (e.g., an additional page of number sentences using some objects other than those being used in the original activity
- Have students do some of the totaling instead of doing it on the board
- Better supervision of students needed (regular classroom teacher to layed back and not observing)
- Have grid sheets already constructed
- Have bags of materials pre-counted

9. What recommendations, if any, would you make to improve this push-in session?

- Specify alternative activities
- Use small black boards for group watching to write down what they consider the correct answer to be
- Group compensatory education students together so it will be easier to work with them
- Provide additional attention to compensatory education pupils
- Conducting activities related to the compensatory education test and not just the manipulatives
- Students seemed ready to take on individual assignments (all problems were done from the front of the room)

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- An introduction stating the objective and how the activity will help the student meet his/her objective
- Better arrangement of desks so that baskets of cubes will not fall down as often
- Examples of how to do the work and working through a couple of problems prior to starting the entire group on their own (review of strategies and expectations)
- Pre-counting cubes in each bag such that they are equal to reduce set-up time
- Refrain from calling compensatory education students pet names such as "Little girls", etc.
- Hire aides rather than compensatory education teachers to fulfill the role of an aide in the push-in mathematics setting

APPENDIX E

GENERAL COMMENTS CONCERNING OBSERVATIONS

One of the reasons why the observations were carried out over a two month period (from the first week of February until the last week of March, 1990) was the frequent cancellations of push-in mathematics sessions. Aside from illness of either teacher (a variable over which there is little control), the predominant reason for these cancellations was the teachers' participation in inservice activities.

Some push-in sessions (in at least three classrooms at Baillie) are not regularly scheduled. They are only held if demanded by the regular classroom teacher. Otherwise the sessions for these teachers are conducted on a pull-out basis for mathematics in grades one and two.

If the number of push-in sessions cancelled due to inservices during these two months is representative of the number of cancellations throughout the year, and should this program not be found to be as successful as hoped, then one contributing factor may be the decrease in quantity of service caused by the frequency of inservices. Further, if the number of inservices is considered to be the absolute minimum, the idea of providing substitutes should be considered, so that service, the program's main objective, is not sacrificed.

During the observations, it was noted that there were some sessions in which few of the students were eligible for compensatory education services (in at least one setting, only one student was eligible). It would seem reasonable to propose that compensatory education program resources would be more efficiently allocated by not providing compensatory education teachers to classrooms of such low need. The program could better use these teachers in "high need" settings and the use of aides would likely provide more than sufficient service to "low need" settings.

Throughout the observations, a variety of teaching styles were noted. Within this range, the role of the compensatory education teacher varied from leading the class while the regular education teacher monitored students, to team teaching, to the compensatory education teacher monitoring and assisting students while the regular education teacher lead the instruction. More uniformity is desirable. While there is a need for flexibility in the compensatory education teachers' role so that they can best serve the students in association with the regular education teacher, a high degree of ambiguity in the compensatory education teachers' roles seems to bring inconsistency, program-wide, in the delivery of services.